



LIVE
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Disaster Recovery

LiveArena Services
Operations





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Purpose and objective

LiveArena developed this disaster recovery plan (DRP) to be used in the event of a significant disruption to the LiveArena Hosted Services. The goal of this plan is to outline the key recovery steps to be performed during and after a disruption to return to normal operations as soon as possible.

The information in this document may be subject to change.

Scope

The scope of this document addresses technical recovery of LiveArena provided services only in the event of a significant disruption.

A significant disruption may be:

- Supporting infrastructure services are unavailable or lost
- Database is lost or corrupted
- Administrative credentials are lost

The specific objectives of this disaster recovery plan are to:

- Immediately mobilize a core group of leaders to assess the technical ramifications of a situation;
- Set technical priorities for the recovery team during the recovery period;
- Minimize the impact of the disruption to the impacted features and business groups;
- Stage the restoration of operations to full processing capabilities;
- Enable rollback operations once the disruption has been resolved if determined appropriate by the recovery team.

This document does not cover disaster recovery for HR, Office or other parts of LiveArena activities that do not have a technical aspect of running the LiveArena Broadcast Services.

Roles and responsibilities

Operations Team

The Operations Team is made up of Systems Administrators responsible for preparing and carrying out the technical steps in the DRP together with assistance from the Developer Team.

Developer Team

The Developer Team is responsible for the software sourcecode necessary for the LiveArena Broadcast platform to work, as well as assisting the Operations Team in carrying out the technical steps in the DRP.



Management Team

The Management Team is responsible for deciding when to initiate the technical steps of the DRP.

Support Team

The Support Team is responsible for communicating status information to customers, together with assistance from the Operations Team.

Data backups

Backups of data are made on regular intervals and are replicated to two different locations outside the primary datacenter. Backups include LiveArena Broadcast data and supporting services data.

LiveArena Broadcast Data

This is customer data, such as Live and VOD video and metadata, users, etc.

Supporting Services Data

This is data which LiveArena depends on in order to be able to operate, develop and maintain the LiveArena Broadcast services.

Infrastructure

LiveArena Broadcast

LiveArena Broadcast is based on Microsoft Azure, with highly modular and redundant infrastructure. In the event that a disaster recovery should be necessary, it is possible to use Azure Resource Manager (ARM) Templates to quickly provision new infrastructure, in alternative datacenters.

Supporting Services

Supporting Services are hosted on a mix of Azure Services as well as services from external providers.

Administrative Credentials

The ability to maintain administrative privileges in all services used by LiveArena is vital to disaster recovery. The transition from hardware servers in a datacenter where we have physical access, to using PaaS driven infrastructure means that keeping administrative credentials secure and redundant at all times. Best practices and documentation of routines are necessary.



Disaster Recovery

This outlines some options for disaster recovery of the LiveArena Broadcast platform in case of significant disruptions

- Redeploy LiveArena Broadcast on current infrastructure and rebuild database
- Redeploy LiveArena Broadcast on new infrastructure and rebuild database
- Redeploy LiveArena Broadcast on new infrastructure in a different datacenter and rebuild database

These are extreme measures that will normally only be carried out after careful consideration, and always after comprehensive consulting with Operations and Developer Teams.

Incident Response Chain

- Incident is discovered by Support or by monitoring
- Initial investigation of incident is done by Support
- If incident requires escalation, it is escalated to Operations and further investigation is conducted
- Once incident scope is determined, Support are informed of the situation so they can relay status to customers
- If the incident is determined to require Disaster Recovery, Management are informed and the decision whether to initiate Disaster Recovery technical steps.

LiveArena Broadcast Recovery Process

In the event of a significant disruption, the decision to restore the services in a new location may be made. Once the decision has been made to relocate the service to a different datacenter, the relocation routine is initiated.

The following outlines the process of redeploying the LiveArena Broadcast services:

Step	Responsible Party	Comment
Issue identification	Support Team / Operations Team	Issue is identified, incident management is initiated, issue escalated to responsible party
Determine Plan Activation	Management	Decision whether to initiate procedures
Communicate decision	Management	Decision is communicated to partners and customers affected
Environment is configured for deploy	Operations Team / Developer Team	Deployment schema is updated to reflect configuration changes necessary as a result of the relocation
Infrastructure is deployed (if necessary)	Operations Team / Developer Team	
Services are deployed to new infrastructure	Operations Team / Developer Team	



Backups are restored / Database is rebuilt	Operations Team / Developer Team	Database backup data is moved from storage to new servers
DNS reconfiguration	Operations Team	This is the point where the transition is made. TTL for our DNS service is 1 hour, propagation to other DNS servers may take longer.
Services are verified	Operations Team	Verification of the relocated services
Backup and other automated jobs are set up on new environment	Operations Team	

Supporting Services

Disaster Recovery of supporting services will be carried out

- Redundant Administrative Credentials on services
- Backups of VMs and service data